



ALLOWED CLAIMS FOR SERIAL NO. 09/960,615

1. Harvesting apparatus comprising:
 - a. a frame;
 - b. wheels connected to said frame enabling travel of said apparatus through a growing field of vegetables; and
 - c. at least one pair of mutually facing movable arrays of finger members carried by said frame for strippingly lifting fruits from plants in said growing fields, said arrays being substantially planar configuration in the region of their mutually facing, and wherein said finger members are positioned in substantially horizontal series so that, during travel, a successive finger member in the series is positioned to lift fruit that a previous finger member in the series unsuccessfully attempted to lift.
2. Apparatus of claim 1 wherein each array comprises:
 - a. a plurality of longitudinally elongated horizontal bars;
 - b. a plurality of transversely elongated finger members connecting to and extending substantially transversely from said bars; and
 - c. an endless member connected to said bars for carrying said bars along an endless path, a substantially vertical portion of which path positions said bars so that said fingers attached to said bars extend towards fingers associated with said mutually facing array as said bars travel upwardly along said path and upwardly strip vegetable

fruits from fruit bearing plants passing between said mutually facing arrays as said apparatus traverses said growing field.

3. Apparatus of claim 2 further comprising:
 - a. means for moving said mutually facing arrays along an endless circular path by advancing said members therealong;
 - b. a plow connected to said frame for lifting and positioning plants for entry into space between said mutually facing arrays; and
 - c. means for providing a directionally adjustable air current for lifting and directing harvested fruits or vegetables exiting from between said arrays at the upper extremities thereof towards a collection area.
4. Apparatus of claim 1 further comprising means for vertically adjusting said mutually facing arrays relative to said frame to enable said mutually facing arrays to accommodate therebetween plants growing on uneven surfaces and in varying row heights.
5. Apparatus of claim 1 further comprising a hitch for connecting the frame to a tractor or pulling machine.
6. Apparatus of claim 1 wherein at least some of said wheels inwardly connect to the frame via a wheel assembly comprising a hydraulic piston cylinder combination for vertically adjustably positioning the associated wheel relative to said frame.
7. (Cancelled)

8. Apparatus of claim 1 further comprising means for adjusting distance of separation between mutually facing arrays.
9. Apparatus of claim 2 wherein said finger members further comprise receptacle means for attaching to elongated horizontal bars.
10. Apparatus of claim 12 wherein the means for supplying energy to propel mutually facing arrays along an endless path comprises a motor.
11. Apparatus of claim 12 wherein the means for providing directionally adjustable air current comprises a high velocity blower.
12. Vegetable or fruit harvesting apparatus comprising:
 - a. a frame;
 - b. wheels connected to said frame enabling travel of said apparatus through a growing field of said vegetables;
 - c. at least one pair of mutually facing arrays of resilient finger members for strippingly lifting fruits from vegetable plants in said growing fields, said arrays being generally upstanding, longitudinally elongated longitudinally converging substantially planar configuration, each array comprising:
 - i. a longitudinally extending endless member selected from the group consisting of fabric, flexible rubber, metal or a plurality of longitudinally elongated horizontal bars configured to form a sheet-like supporting structure said fingers extending substantially lateral therefrom;

- ii. means for adjusting width between said mutually facing arrays;
 - iii. means for vertically adjusting said mutually facing arrays relative to said frame to enable said apparatus to function on uneven surfaces and harvest variable row heights;
 - iv. a plurality of transversely elongated finger members connecting to an extending from said longitudinally extending endless sheet-like member;
 - v. an endless drive member connected to said longitudinally extending sheet-like member along an endless path, a substantially vertical portion of which path positions said longitudinally extending sheet-like member so that said fingers attached to said sheet-like member extend towards fingers associated with said mutually facing array as said sheet-like member travels along said path and upwardly strips fruits from plants passing between said mutually facing arrays as said apparatus traverses said growing field;
 - vi. means for propelling said mutually facing arrays along endless paths defined by said drive members;
 - vii. a plow connected to said frame for lifting and positioning plants proximate the space between mutually facing arrays;
- and

- viii. means for providing directionally adjustable air for pneumatically lifting and directing harvested fruits or vegetables exiting an upper portion of said space between said arrays towards a collection area.

13. A method of harvesting comprising:

- a. advancing a harvester through a growing field;
- b. scoopingly directing plants towards an opening between mutually facing arrays;
- c. advanceably positioning mutually facing movable arrays of substantially horizontal series of resilient finger members on opposite sides of plants containing fruits to be harvested;
- d. rotating said mutually facing arrays of resilient finger members whereby one array rotates in a clockwise direction and the other in a counter-clockwise direction and both arrays move upwardly in a region in which said arrays are mutually facing above plants in a growing field from which fruits are to be harvested thereby upwardly sweeping the plants with resilient finger members to strippingly remove fruits from the plants;
- e. advanceably positioning mutually facing movable arrays of resilient finger members so that a successive resilient finger member in the series is advanceably positioned to remove fruit that a previous resilient finger member in the series unsuccessfully attempted to remove.

14. A method of harvesting comprising:
 - a. advancing a harvester through a growing field;
 - b. scoopingly directing plants towards an opening between mutually facing arrays;
 - c. advanceably positioning mutually facing movable arrays of resilient finger members on opposite sides of plants containing fruits to be harvested;
 - d. rotating said mutually facing arrays of resilient finger members whereby one array rotates in a clockwise direction and the other in a counter-clockwise direction and both arrays move upwardly in a region in which said arrays are mutually facing above plants in a growing field from which fruits are to be harvested thereby upwardly sweeping the plants with resilient finger members to strippingly remove fruits from the plants;
 - e. pneumatically propelling harvested fruits at the upper boundary of where said stripping occurs towards collection device.
15. The method of claim 13 wherein the harvester is advanced by a tractor through the growing field.
16. The method of claim 13 further comprising adjusting the spatial width between said mutually facing arrays
17. The method of claim 16 further comprising vertically adjusting the clearance of said arrays from the ground.

18. Apparatus of claim 1 further comprising means for independently vertically positioning said arrays relative to said frame for travel through said growing field.
19. Apparatus of claim 1 wherein said finger members are resilient.
20. Apparatus of claim 1 wherein said finger members are elastomeric.
21. Apparatus of claim 1 wherein said finger members are homogeneous.
22. Apparatus of claim 2 wherein said finger members and said bars are of integral, one piece construction.
23. Apparatus of claim 1 wherein said arrays include sheet-like planar portions with pluralities of finger members projecting substantially transversely therefrom.
24. Apparatus of claim 1 wherein said arrays are of integral, one piece molded construction with said finger members and said sheet-like portions being homogeneous.
25. Apparatus of claim 1 wherein said finger members are rigid.
26. (Cancelled)
27. Apparatus of claim 2 wherein finger members of said two arrays interdigitate in at least a portion of the region in which said arrays are mutually facing.
28. Apparatus of claim 1 wherein said arrays are more proximate one another remote from the position of entry of said fruit-bearing plants between said arrays than at said entry position.

29. Apparatus of claim 1 wherein said facing portions of said arrays are more proximate one another remote from the growing field than at ground level.
30. (Cancelled)
31. (Cancelled)
32. The method of claim 13 further comprising transversely sweeping the growing ground during harvester travel thereover to brushingly gather detached fallen fruits off of the ground and into the region within which said arrays face one another.
33. The method of claim 14 wherein said sweeping and brushingly gathering is performed by rotation of at least one of said arrays to position said resilient finger members substantially perpendicularly to the ground and thereafter to move said perpendicularly positioned finger members transversely thereover from a position to a position proximate said mutually facing portions of said arrays.
34. Harvesting apparatus comprising:
 - a. a frame;
 - b. wheels connected to said frame enabling travel of said apparatus through a growing field of fruits; and
 - c. at least one pair of mutually facing movable endless webs supporting vegetation stripping means protruding from the web surface, said webs being carried by said frame for strippingly lifting fruits from plants in said growing fields as said webs move along said field with said plants entering between upwardly moving facing

portions of said webs, said webs substantially planar in the region of their mutually facing, and wherein said stripping means are positioned in substantially horizontal series so that, during travel, a successive stripping means in the series is positioned to lift fruit that a previous stripping means in the series failed to lift.

35. Harvesting apparatus comprising:
- a. a frame;
 - b. wheels connected to said frame enabling travel of said apparatus through a growing field of fruits; and
 - c. an endless movable array of finger members carried by said frame for contacting and strippingly lifting fruits from plants in said growing fields, said array having at least a portion which is substantially planar along which said finger members endlessly move upwardly while strippingly lifting said fruits as said apparatus travels through said growing field and wherein said finger members are positioned in substantially horizontal series so that, during travel, a successive finger member in the series is positioned to lift fruit that a previous finger member in the series unsuccessfully attempted to lift.
36. Apparatus of claim 35 wherein said array comprises a continuous flexible web with a plurality of transversely elongated finger members connecting to and extending substantially transversely from said web.
37. Harvesting apparatus comprising:
- a. a frame;

- b. wheels connected to said frame enabling travel of said apparatus through a growing field of fruits;
 - c. an endless movable array of finger members carried by said frame for contacting and strippingly lifting fruits from plants in said growing fields, said array being generally upstanding, longitudinally elongated and having at least a portion which is substantially planar along which said finger members endlessly move upwardly while strippingly lifting said fruits as said apparatus travels through said growing field; and
 - d. means for providing a directionally adjustable air current for lifting and directing harvested fruits carried by and exiting from said array at the upper extremities thereof towards a collection area.
38. Apparatus of claim 35 wherein said finger members are flexible.
39. Apparatus of claim 36 wherein said finger members are flexible.
40. Apparatus of claim 37 wherein said finger members are flexible.